

# WELDING PROCESS

## Abstract

A process for repairing a compressor rear frame of a gas turbine engine. The process entails removing a seal flange from the inner casing wall of the frame to define an annular face on the casing wall, and fabricating a replacement flange to have an annular face with a radial width greater than the radial width of the annular face of the casing wall. The faces of the flange and wall are mated to form a joint, a penetration-enhancing flux is deposited adjacent the joint, and a single-pass gas tungsten arc welding operation is performed to form a root weldment that extends completely through the joint. The flux is then removed and a gas tungsten arc welding operation is performed to deposit a filler on the root weldment and form a second weldment that completely overlays but does not penetrate through the root weldment.